

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Michael Sworin and James C. Jenson

Application No.: 10/082,815

Group Art Unit: 1631

Filed: February 22, 2002

Examiner: C.D. Ly

Confirmation No.: 1636

Title: METHODS OF IDENTIFYING INHIBITORS OF BINDING BETWEEN  
PROTEINS AND MACROMOLECULAR LIGANDS

CERTIFICATE OF MAILING OR TRANSMISSION	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or is being facsimile transmitted to the United States Patent and Trademark Office on:	
03/30/04	Kelley A. Foss
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Kelley A. Foss	
Typed or printed name of person signing certificate	

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

04/02/2004 NROCHA1 00000004 10082815

This Information Disclosure Statement is submitted:

☐ under 37 CFR 1.129(a), or  
(First/Second submission after Final Rejection)

01 FC:1806

180.00 OP

☐ under 37 CFR 1.97(b), or  
(Within any one of the following time periods: three months of filing national application (other than a CPA) or date of entry of the national stage in an international application; or before the mailing date of a first office action on the merits in a non-provisional application, including a CPA, or a Request for Continued Examination).

☒ under 37 CFR 1.97(c) together with either:

☐ a Statement under 37 CFR 1.97(e), as checked below, or

☒ a \$180.00 fee under 37 CFR 1.17(p), or

(After the 37 CFR 1.97(b) time period, but before final action or notice of allowance, whichever occurs first)

☐ under 37 CFR 1.97(d) together with:

☐ a Statement under 37 CFR 1.97(e), as checked below, and

☐ a \$180.00 fee under 37 CFR 1.17(p), or

(Filed after final action or notice of allowance, whichever occurs first, but on or before payment of the issue fee)

☐ under 37 CFR 1.97(i):

Applicant requests that the IDS and cited reference(s) be placed in the application filewrapper.

(Filed after payment of issue fee)

Statement Under 37 CFR 1.97(e)

- ☐ Each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement; or
- ☐ No item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned, after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

Statement Under 37 CFR 1.704(d) (Patent Term Adjustment)

Applies to original applications (other than design) filed on or after May 29, 2000

- ☐ Each item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in § 1.56(c) more than thirty days prior to the filing of the Information Disclosure Statement.
- ☒ Enclosed herewith is form PTO-1449:
- ☒ Copies of the cited references are enclosed.
- ☐ Since this application was filed after June 30, 2003, copies of issued U.S. patents and published U.S. applications are not required and are not being provided.
- ☐ Copies of the cited references are enclosed except those entered in prior application, U.S. Application No. [ ], to which priority under 35 U.S.C. 120 is claimed. [The earlier application contains copies of the cited references.]
- ☐ The listed references were cited in the enclosed International Search Report in a counterpart foreign application.
- ☐ The "concise explanation" requirement (non-English references) for reference(s) [ ] under 37 CFR 1.98(a)(3) is satisfied by:
- ☐ the explanation provided on the attached sheet.
- ☐ the explanation provided in the Specification.
- ☐ submission of the enclosed International Search Report.
- ☐ submission of the enclosed English-language version of a foreign Search Report and/or foreign Office Action.
- ☐ the enclosed English language abstract.

☐ Applicant requests that the following non-published pending applications be considered:

Examiner's  
Initials

\_\_\_\_\_ U.S. Patent Application No. [ ], by [inventor(s)], filed [ ], Docket No.: [ ]

\_\_\_\_\_ U.S. Patent Application No. [ ], by [inventor(s)], filed [ ], Docket No.: [ ]

\_\_\_\_\_ U.S. Patent Application No. [ ], by [inventor(s)], filed [ ], Docket No.: [ ]

\_\_\_\_\_  
Examiner

\_\_\_\_\_  
Date

☐ A copy of each above-cited application, including the current claims, is enclosed.

☐ A copy of each above-cited application, including the current claims, is enclosed, except those entered in prior application, U.S. Application No. [ ], to which priority under 35 U.S.C. 120 is claimed.

The Examiner is requested to return a copy of the above list of pending applications indicating which references were considered with the next office communication.

It is requested that the information disclosed herein be made of record in this application.

Method of payment:

☒ A check for the fee noted above is enclosed, or the fee has been included in the check with the accompanying Reply. A copy of this Statement is enclosed.

☐ Please charge Deposit Account 08-0380 in the amount of \$[ ]. A copy of this Statement is enclosed.

☒ Please charge any deficiency in fees and credit any overpayment to Deposit Account 08-0380.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By Pamela A. Torpey  
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Concord, MA 01742-9133

Dated: March 30, 2004

PTO-1449 REPRODUCED

SUPPLEMENTAL INFORMATION DISCLOSURE  
CITATION IN AN APPLICATION

March 30, 2004

(Use several sheets if necessary)

ATTORNEY DOCKET NO.  
2791.1003-007APPLICATION NO.  
10/082,815FIRST NAMED INVENTOR  
Michael SworinFILING DATE  
February 22, 2002EXAMINER  
C.D. LyCONFIRMATION NO.  
1636GROUP  
1631

## U.S. PATENT DOCUMENTS

EXAM- INER INI- TIAL	REF. NO.	DOCUMENT NUMBER Number-Kind Code (if known)	ISSUE DATE / PUBLICATION DATE MM-DD-YYYY	NAME OF PATENTEE OR APPLICANT OF CITED DOCUMENT
	AG2	2002/0031780 A1	03-14-2002	Way
	AH2	6,465,192 B2	10-15-2002	Way
	AI2	2003/0003513 A1	01-02-2003	Way

EXAMINER

DATE CONSIDERED

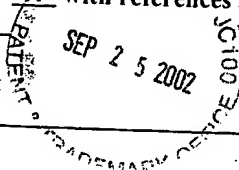
Initials: DEB/SGD/sdb

Docket No.: 2791.1003-007

Date: 9/23/02

This is to acknowledge receipt of the following documents each filed under Certificate of Mailing Procedure 37 C.F.R. 1.8:

- ☒ INFORMATION DISCLOSURE STATEMENT *1 P* w/copy
- ☒ Form PTO-1449 pp 3 *X* with references as noted in 1449
- ☐ Check for \$ \_\_\_\_\_
- ☐ Authorization to Charge all Fees
- ☐ Copy of International Search Report
- ☐ Other \_\_\_\_\_



Applicants: Michael Sworin, *et al.*

Application No.: 10/082,815

Filed: February 22, 2002

Title: INHIBITORS OF BINDING BETWEEN PROTEINS AND ...

Date received by the PTO:

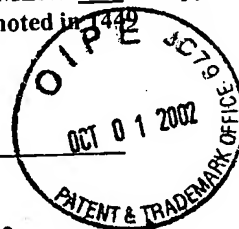
Initials: DEB/SGD/sdb

Docket No.: 2791.1003-007

Date: 9/26/02

This is to acknowledge receipt of the following documents each filed under Certificate of Mailing Procedure 37 C.F.R. 1.8:

☒ SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT ☐ w/copy  
☒ Form PTO-1449 pp 1 ☒ with references as noted in 1449  
☐ Check for \$ \_\_\_\_\_  
☐ Authorization to Charge all Fees  
☐ Copy of International Search Report  
☐ Other \_\_\_\_\_



Applicants: Michael Sworin, *et al.*

Application No.: 10/082,815

Filed: February 22, 2002

Title: INHIBITORS OF BINDING BETWEEN PROTEINS AND ...

Date received by the PTO:

PTO-1449 REPRODUCED  <b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION</b>  September 20, 2002  (Use several sheets if necessary)				ATTORNEY DOCKET NO. 2791.1003-007		APPLICATION NO. 10/082,815	
				APPLICANT Michael Sworin, et al.			
				FILING DATE February 22, 2002		GROUP 1645	
U.S. PATENT DOCUMENTS							
EXAM- INER INI- TIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
	AA	5,474,911	12/12/95	Pontius			
	AB	5,612,034	3/18/97	Pouletty et al.	424	184.1	
	AC	5,698,401	12/16/97	Fesik et al.	435	7.1	
	AD	5,763,595	6/9/98	Gold et al.	536	2.1	
	AE	5,804,390	9/8/98	Fesik et al.	435	7.1	
	AF	5,843,440	12/1/98	Pouletty et al.	424	133.1	
	AG	5,891,643	4/6/99	Fesik et al.	435	7.1	
	AH	5,958,703	9/28/99	Dower et al.	435	7.1	
	AI	5,962,219	10/5/99	Gold et al.	435	6	
	AJ	5,989,827	11/23/99	Fesik et al.	435	7.1	
	AK	6,043,024	3/28/00	Fesik et al.	435	4	
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO
	AL	WO 97/25074	17-7-97	PCT			
	AM	WO 97/29372	14-8-97	PCT			
	AN	WO 98/11437	19-3-98	PCT			
	AO	WO 98/19162	7-5-98	PCT			
	AP	WO 98/46270	22-10-98	PCT			
	AQ	WO 98/47002	22-10-98	PCT			
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
	AR	Way, J. C., "Covalent modification as a strategy to block protein-protein interactions with small-molecule drugs," <i>Current Opinion in Chemical Biology</i> , 4:40-46 (2000).					
	AS	Krantz, A., Diversification of the drug discovery process," <i>Nature Biotechnology</i> , Vol. 16:1294 (1998).					
	AT	Krantz, A., et al., "Drug Pharmacophores Covalently Linked to the Red Cell Surface are Active Without Prior Release. Drug Targeting of Renin with a Synthetic Ligand Conjugated to Red Blood Cells," <i>Journal of Drug Targeting</i> , 7(2):113-130 (1999).					
EXAMINER				DATE CONSIDERED			

PTO-1449 REPRODUCED				ATTORNEY DOCKET NO. 2791.1003-007		APPLICATION NO. 10/082,815	
INFORMATION DISCLOSURE CITATION IN AN APPLICATION September 20, 2002 (Use several sheets if necessary)				APPLICANT Michael Sworin et al.			
				FILING DATE February 22, 2002		GROUP 1645	
U.S. PATENT DOCUMENTS							
EXAM- INER INI- TIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
	AA2	6,087,375	7/11/00	Bridon et al.	514	314	
	AB2	6,103,233	8/15/00	Pouletty et al.	424	133.1	
	AC2	6,107,489	8/22/00	Krantz et al.	548	338.1	
	AD2	5,705,337	1/6/98	Gold et al.	435	6	
	AE2						
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO
	AL2	WO 99/24074	20-5-00	PCT			
	AM2	WO 99/24076	20-5-99	PCT			
	AN2	WO 99/24462	20-5-99	PCT			
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
	AU	Krantz, A., "Red Cell-Mediated Therapy: Opportunities and Challenges," <i>Blood Cells, Molecules, and Diseases</i> , 23(3):58-68 (1997).					
	AV	Krantz, A., "Peptidyl (Acyloxy)methanes as Quiescent Affinity Labels for Cysteine Proteinases," <i>Methods in Enzymology</i> , 244:656-671 (1994).					
	AW	Weir, M. P., et al., "Novel Natural Product 5,5-trans-Lactone Inhibitors of Human $\alpha$ -Thrombin: Mechanism of Action and Structural Studies," <i>Biochemistry</i> , 37:6645-6657 (1998).					
	AX	Hemmerich, S., et al., "Identification of Residues in the Monocyte Chemotactic Protein-1 That Contact the MCP-1 Receptor, CCR2," <i>Biochemistry</i> , 38:13013-13025 (1999).					
	AY	Finch, H., et al., "5,5-TRANS LACTONE-CONTAINING INHIBITORS OF SERINE PROTEASES: IDENTIFICATION OF A NOVEL, ACYLATING THROMBIN INHIBITOR," <i>Bioorganic &amp; Medicinal Chemistry Letters</i> , 8:2955-2960 (1998).					
	AZ	Montecarlo, F.S., et al., "The Amino-terminal Domain of CCR2 Is Both Necessary and Sufficient for High Affinity Binding of Monocyte Chemoattractant Protein 1," <i>The Journal of Biological Chemistry</i> , 272(37): 23186-23190 (1997).					
	AR2	Tilley, J.W., et al., "Identification of a Small Molecule Inhibitor of the IL-2/IL-2R $\alpha$ Receptor Interaction Which Binds to IL-2," <i>J. Am. Chem. Soc.</i> , 119:7589-7590 (1997).					
EXAMINER				DATE CONSIDERED			



PTO-1449 REPRODUCED

INFORMATION DISCLOSURE CITATION  
IN AN APPLICATION

September 20, 2002

(Use several sheets if necessary)

ATTORNEY DOCKET NO.  
2791.1003-007APPLICATION NO.  
10/082,815APPLICANT  
Michael Sworin et al.FILING DATE  
February 22, 2002GROUP  
1645

## U.S. PATENT DOCUMENTS

EXAM- INER INI- TIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
	AF2						
	AG2						
	AH2						
	AI2						
	AJ2						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO
	A02	WO 99/24075	20-6-99	PCT			
	AP2	WO 99/31265	24-6-99	PCT			
	AQ2	WO 99/48536	30-9-99	PCT			
	AL3	WO 99/64032	16-12-99	PCT			
	AM3	WO 99/64036	16-12-99	PCT			
	AN3	WO 99/66944	29-12-99	PCT			
	AO3	WO 00/00823	6-1-00	PCT			
	AP3	WO 00/39585	6-7-00	PCT			

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

AS2	Skelton, N. J., et al., "Structure of a CXC chemokine-receptor fragment in complex with interleukin-8," <i>Structure</i> 7(2):157-168 (1999).
AT2	Shuker, S.B., et al., "Discovering High-Affinity Ligands for Proteins: SAR by NMR," <i>Science</i> , 274:1531-1534 (1996).
AU2	Steitz, S.A., et al., "Mapping of MCP-1 functional domains by peptide analysis and site-directed mutagenesis," <i>FEBS Letters</i> , 430(158-164 (1998).
AV2	Reckless, J., et al., "Identification of oligopeptide sequences which inhibit migration induced by a wide range of chemokines," <i>Biochem. J.</i> , 340:803-811 (1999).
AW2	Spaldin, V., et al., "The effect of enzyme inhibition on the metabolism and activation of tacrine by human liver microsomes," <i>Br J Clin Pharmacol</i> , 38:15-22, (1994).

EXAMINER

DATE CONSIDERED

PTO-1449 REPRODUCED

SUPPLEMENTAL  
INFORMATION DISCLOSURE CITATION  
IN AN APPLICATION

September 24, 2002

(Use several sheets if necessary)

ATTORNEY DOCKET NO.  
2791.1003-007APPLICATION NO.  
10/082,815APPLICANT  
Michael Sworin, et al.FILING DATE  
February 22, 2002GROUP  
1645

## U.S. PATENT DOCUMENTS

EXAM- INER INI- TIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
	AE2	5,840,733	11/24/98	Krantz et al.	514	311	
	AF2	5,942,620	08/24/99	Krantz et al.	546	166	

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO
	AQ3	WO 99/40435	12-AUG-99	PCT			

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER

DATE CONSIDERED